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Fiscal Decentralisation and Economic Growth in Pakistan

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I. INTRODUCTION

Fiscal decentralisation is seen as a means to enhance the economic efficiency of the government and also promote economic growth. Fiscal decentralisation is the empowerment of fiscal responsibilities to the sub-national governments, involving devolution of powers to tax and spend along with arrangements for correcting the imbalances between resources and obligations. The effectiveness of fiscal decentralisation depends upon: (a) appropriate expenditure assignments—with division of functions among different levels of government depending upon their comparative advantage (called the principle of subsidiarity); (b) appropriate tax or revenue assignments; and (c) the efficient design of a system of transfers and its proper implementation [Kardar (2006)].

Many developing countries are turning to different forms of fiscal decentralisation because it is a possible way to get rid of the traps of ineffective and inefficient governance, macroeconomic instability and inadequate economic growth. Economists and policy-makers are of the view that the decentralisation of a nation's fiscal structure is an effective strategy to promote economic growth and development. However, it is surprising that some existing studies found negative association between economic growth and fiscal decentralisation in cross country study as well as a country case study. In spite of this negative association between economic growth and fiscal decentralisation, developed and developing countries are reviving their debates on fiscal decentralisation.

The primary propose of this study is to analyse the impact of fiscal decentralisation on economic growth of Pakistan. The rest of the paper is constructed as follows. Section II will take brief review of previous studies on the subject. In Section III, we will summarise the trends in fiscal allocation between central and provincial governments. Section IV will describe the model and methodology. Estimation results will be presented in Section V. Section VI will conclude the study.

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II. LITERATURE REVIEW

There is extensive literature on the relationship between fiscal decentralisation and economic growth. Different studies found different results for developing as well as developed countries but no study found on the same relationship in the context of Pakistan. Phillips and Woller (1997) suggested that there exists a statistically significant though trivial inverse relationship between the level of revenue decentralisation and economic growth in sample of developed countries. They failed to find any relationship between fiscal decentralisation and economic growth in sample of less developed countries. Their data set consists of annual observations on twenty-three less developed and seventeen developed countries for the years 1974 through 1991.

Zhang and Zou (1998) using the provincial panel data for the period 1978-1992 for China, found that a higher degree of fiscal decentralisation of government spending is associated with lower provincial economic growth over the past fifteen years. This consistently significant and robust result in their empirical examinations is surprising in light of the argument that fiscal decentralisation usually makes a positive contribution to local economic growth.

Jin and Zou used the panel data set for China's 30 provinces for the time period from 1979 to 1993 and 1994 to 1999 separately. The results suggested that in both time periods, expenditure and revenue decentralisation levels should further diverge to benefit provincial growth.

Xie, Zou and Davoodi (1999) found for the high-income country United States (covering the period since 1949) a highly insignificant effect of fiscal decentralisation on economic growth. They argue that the degree of fiscal decentralisation in this country may be at an optimal level so that benefits from a further rise of fiscal decentralisation are unlikely.

Lin and Liu (2000) used the province-level panel data of 28 provinces of China for the period 1970-1993. They examined the effect of fiscal decentralisation on economic growth by using a production-function-based regression analysis framework. They suggested that fiscal decentralisation has made a positive contribution to growth process. They also concluded that rural reform, the non-state sector and capital accumulation along with fiscal reform are the key deriving forces of China's impressive growth over the past 20 or so years.

Thieben (2001) reviewed the benefits and shortcomings of fiscal decentralisation for OECD countries for the period of 1975–1995. He used the pure cross-sectional technique for analysis. He concluded that there is no relationship between economic performance of high-income OECD countries and reliance of sub-national governments on own revenue sources to finance their expenditures. Although it appears that increasing self-reliance and capital formation are positively related, the associations between self-reliance, on the one hand, and TFP growth and economic growth, on the other, are unclear.

Martinez-Vazquez and McNab (2001) concluded that it is still an open question for empirical search for a direct relationship between fiscal decentralisation and economic growth. Much less attention has been devoted in the literature to the indirect channels through which fiscal decentralisation may effect economic growth, through the impact of fiscal decentralisation on economic efficiency, the regional distribution of resources, and macroeconomic stability.

Ebel and Yilmaz discussed the topic of measurement of decentralisation and different models on the relationship between fiscal decentralisation and economic growth. Discussing the fiscal designs of OECD countries, they concluded that decentralisation is surprisingly difficult to estimate and data, used by different authors, in spite of many merits, falls short of providing full picture of fiscal decentralisation.

Mello and Barenstein (2001) used the cross-country data for up to 78 countries for the period 1980-1992 and concluded that the higher the share in total sub-national revenues of non-tax revenues and grants and transfers from higher levels of government, the stronger the association between decentralisation and governance.

Martinez-Vazquez and McNab (2003) using panel data set for 52 developing and developed countries for the period 1972-1997, examined the direct and indirect relationship between fiscal decentralisation and economic growth and macroeconomic stability. They found that decentralisation appears to reduce the rate of inflation in the sample countries, does not appear to directly influence economic growth, and has an indirect, positive effect on growth through its positive influence on macroeconomic stability.

Feltenstein and Iwata (2005) give an empirical examination of the impact of fiscal and economic decentralisation in China on the country's economic growth and inflation, using a vector autoregressive (VAR) model with latent variables. Their econometric investigation offers strong evidence that there is a connection between decentralisation and macroeconomic performance in China. Economic decentralisation appears to be positively related to growth in real output for the entire postwar period in China. Fiscal decentralisation seems to have adverse implications for the rate of inflation, especially after the late 1970s. Decentralisation would therefore seem to be good for growth and bad for price stability.

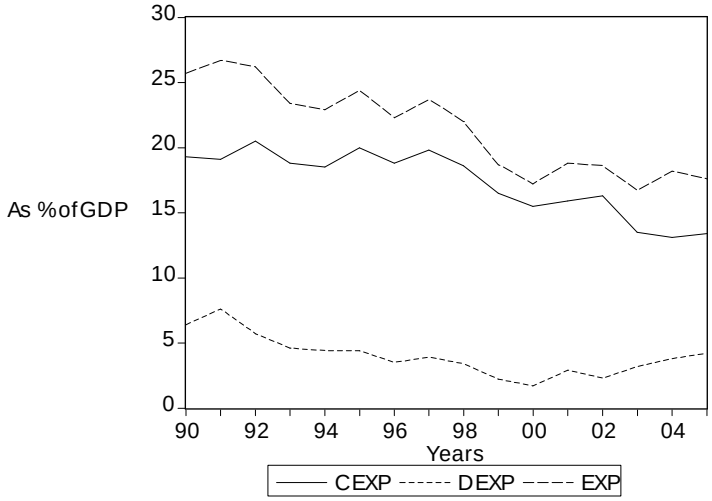
III. TRENDS IN FISCAL ALLOCATION BETWEEN THE CENTRAL AND PROVINCIAL GOVERNMENTS IN PAKISTAN

(a) Overall Fiscal Status

We analyse the fiscal stance of Pakistan which has two sides to balance the budget, namely revenues and expenditures. Fig. 1 shows that total expenditures accounted for 25.7 percent of GDP in 1990-91 compared to 17.6 percent of GDP in 2005-06. Total expenditure in the National Accounts is divided into current and development expenditures (as in Fig. 1). Throughout 1990s' current expenditures have a lion's share of total expenditures i.e. 19.3 percent in 1990-91 and 16.5 percent in 1999-00. Current expenditures have decreasing trend now i.e. 16.3 percent in 2002-03 compared to 13.4 percent in 2005-06. Although the change is not much significant but it is a positive start which should be continued. Development expenditures decreased consistently during 1992–2001 from 5.7 percent in 1992–93 to 1.7 percent in 2000-01 and then increased during 2001-2006 from 1.7 percent in 2000-01 to 4.2 percent in 2005-06. This shows the overall Government expenditures as a share of GDP.

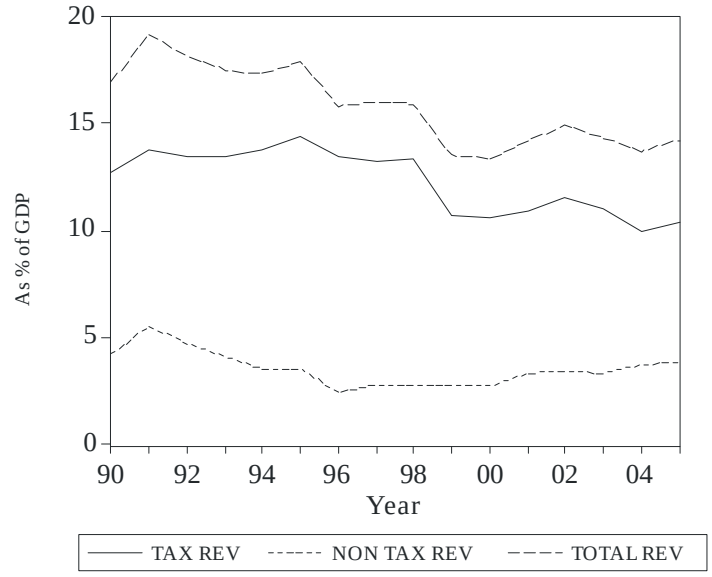
Total revenues are divided into two tax revenues and non-tax revenues. Total revenues are 16.9 percent of GDP in 1990-91 and 14.2 percent in 2005-06 (as shown in Fig. 2). There is no significant increase or decline in revenues. Tax and non-tax revenues have also insignificant fluctuations.

Fig. 1. Share of Expenditures Relative to the GDP



Source: *Pakistan Economic Survey* (Various Issues).

Fig. 2. Share of Revenues Relative to the GDP



Source: *Pakistan Economic Survey* (Various Issues).

(b) Relative Fiscal Status between the Central and Provincial Governments

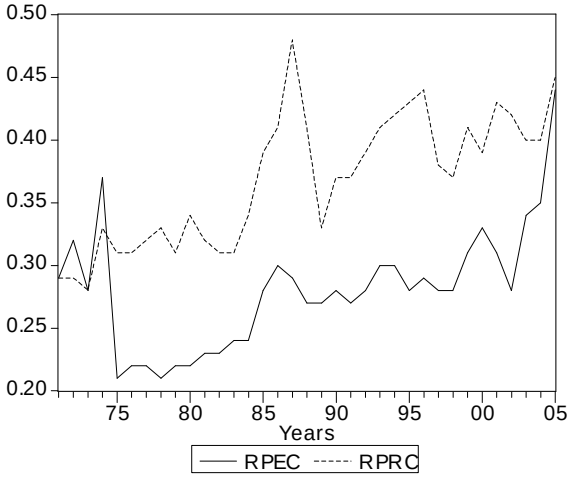
Fiscal decentralisation can be measured by the relative sizes of central spending and revenue collection and provincial spending and revenue collection. Pakistan has a highly centralised structure, characterised by the constitutional assignment of powers and the political, administration and fiscal systems [Kardar (2006)]. The Constitution of Pakistan gives the power to the Federal Government to levy the most productive taxes

under present conditions-taxes on non-agricultural incomes, taxes on import, production or excise duties and sales taxes. Once collected, these taxes are then shared between the federal government and the provinces and between the provinces and local governments while the expenditure responsibilities are assigned to the sub-national governments. So, the revenue side is not a good indicator of decentralisation compared to expenditure side.

Revenues are allocated between Federal and Provincial governments with help of National Finance Commission which is formed by the President of Pakistan after every five years. Since 1997, the share of the Government in the divisible pool has been fixed at 62.5 percent while the share of the provincial governments has been fixed at 37.5 percent. Beginning 2006-07, the share of the provincial governments in the divisible pool will rise annually to 41.5 percent, 42.5 percent, 43.75 percent, 45.0 percent and 46.25 percent thereafter in coming years (*Economic Survey, 2005-06*).

Fig. 3 shows some evidence about the relative fiscal status of central and provincial governments. In 1971-72, provincial governments had .29 percent of total federal government expenditures as compared to 43.62 percent in 2005-06. So, there is an increasing trend of fiscal decentralisation on the expenditure side. On the revenue side, 29 percent in 1971-72 as compared to 44.73 percent in 2005-06. Although, it is increasing trend on the revenue side but still unsatisfactory. There are no significant changes in the ratio of expenditures and revenues which is poor picture of decentralisation of fiscal status from last 8 years in spite of increasing interest of present government towards fiscal decentralisation and devolution of powers.

Fig. 3. Ratio of Provincial and Federal Expenditures and Revenues



Source: State Bank of Pakistan.

IV. METHODOLOGY AND MODEL

The present study is based on secondary source of data consisting annual observations on Pakistan and all four provinces for the period of 1971–2005. We have taken the real Gross Domestic Product at current factor cost as dependent proxy variable to analyse the impact of fiscal decentralisation on economic growth of Pakistan. Lin and

Liu (2000) also used same dependent variable for the analysis in their study on China. Data on GDP has been taken from Pakistan Economic Survey. Data for other variables has been taken from various sources i.e. Hand Book of Statistics on Pakistan economy, 2005, various issues of Pakistan Economic Survey, Fifty Years of Pakistan Statistics.

Fiscal decentralisation is measured with respect to both revenue and expenditure assignments. In the literature on fiscal decentralisation, different decentralisation measures have been used. These studies include Phillips and Woller (1997); Lin and Liu (2000); Mello and Barenstein (2001); Thieben (2001); Xie, Zou, and Davoodi (1999); Zhang and Zou (1998); Jin and Zou, Feltenstein and Iwata (2005). However, we have used the best known indicator of fiscal decentralisation.

Our decentralisation variables are

RPEC: The ratio of sub-national government expenditures to total government expenditures;

RPECA: The ratio of sub-national government expenditures to total government expenditures less defence expenditures and payment of interest on debt;

RPRC: The ratio of sub-national government revenues to total government Revenues; and

RPRCA: The ratio of sub-national government revenues less grants-in-aid to Total government revenues.

The variables RPEC and RPRC are straight forward measures of expenditure and revenue decentralisation. The use of these two ratios alone as measures of fiscal decentralisation, however, can be misleading [Phillips and Woller (1997)]. Confusion can occur when all or most local taxes, tax bases, and tax rates are established by the central government, when the central government exercises control over provincial expenditures, when grants-in-aid from the central to provincial governments are earmarked for specific purposes, or when defense and debt expenditures by the central government are taken into account as the case of Pakistan (presumably we want to include only those expenditures that could, in principle, be the responsibility of either level of government). Though we cannot account for all of the above difficulties, two simple adjustments are possible [Wasylenko (1987)]. The first adjustment in RPECA is to subtract defense and debt expenditures from total government expenditures when calculating the ratio of provincial government expenditures to total government expenditures. The second adjustment in RPRCA is to subtract grants-in-aid from provincial government revenues when calculating the ratio of provincial government revenues to total government revenues.

Now, we explain our other explanatory variables.

OPEN: Openness, measured by the total volume of foreign trade (sum of exports and imports divided by GDP).

INFL: The inflation rate.

GEXP: Total govt. expenditures.

GREV: Total govt. revenues.

We form our growth model as follows:

$$Log(Y)=\alpha_1+\alpha_2 Log(GEXP)+\alpha_3 Log(GREV)+\alpha_4(OPEN)+\alpha_5(INFL)+\alpha_6(RPEC)+\alpha_7(RPRC)+\alpha_8(RPECA)+\alpha_9(RPRCA)+\mu_i$$

Where, *Y* is GDP at current factor cost. Explanatory variables are explained above. Our explanatory variables (other than fiscal decentralisation variables) of growth used in many other studies on economic growth can be explained. The argument for including the degree of openness as a determinant of growth states that more exports lead to more efficient resource allocation as a result of external competition in the world market, whereas imports are the means to import advanced technology from developed economies [Zhang and Zou (1998)]. Inflation can generate a positive effect on growth because higher inflation leads people to invest more in physical capital and cut their real-balance holdings (the Tobin portfolio-shift effect). But at the same time, inflation raises the transaction cost of economic activities (consumption and investment) and may reduce the rate of economic growth [Zhang and Zou (1998)]. To capture the impact of budgetary expenditures and revenues of central and provincial governments on economic growth, we have included the total govt. expenditures and revenues. However, our primary concern in this study is with fiscal decentralisation variables.

In this study, first, we will check the stationary/non-stationary of variables using Augmented Dickey-Fuller (ADF) test with intercept and trend and intercept. If all variables will have the same integrating order, the co-integration analysis will be undertaken. If long-run relation will exist then model will be conducted by including the difference of lagged random error term. This model will be estimated based on OLS method. However, if variables are not going to co-integrate, then we will apply only OLS method with difference of the variables based on the ADF test. Moreover, the problem of autocorrelation is handled by using Autoregressive and moving averages methods of different orders.

V. EMPIRICAL RESULTS

First of all, we have conducted the ADF test for stationarity or non-stationarity. Results of the mentioned test are reported in Table 1 and Table 2. Our dependent variable GDP time series is not stationary at 1st difference operator when we test it with intercept. It is also not stationary when tested with trend and intercept at 2nd difference operator as reported in Table 2. We have found only Log (GREV) and OPEN time series stationary

Table 1

Augmented Dickey-Fuller Test with Intercept

Variables	Level	1st Difference	Conclusion
GDP	–2.07	–4.12	I (1)
Log (GEXP)	–3.39	–5.32	I (1)
Log (GREV)	–4.07	–	I (0)
RPEC	–2.61	–8.95	I (1)
RPECA	–1.2	–5.56	I (1)
RPRC	–2.15	–5.96	I (1)
RPRCA	–1.28	–5.32	I (1)
INFL	–2.92	–4.93	I (1)
OPEN	–5.92	–	I (0)

Source: Authors calculations based on E-views software.

Table 2

Augmented Dickey-Fuller Test with Trend and Intercept

Variables	Level	1st Difference	Conclusion
GDP	–3.78	–6.37	I (1)
Log (GEXP)	–2.57	–6.85	I (1)
Log (GREV)	–2.56	–8.36	I (1)
RPEC	–3.43	–9.22	I (1)
RPECA	–3.53	–5.46	I (1)
RPRC	–3.12	–5.90	I (1)
RPRCA	–2.24	–5.22	I (1)
INFL	–3.44	–4.81	I (1)
OPEN	–5.43	–	I (0)

Source: Authors calculations based on E-views software.

when tested with intercept. But when we test Log (GREV) with trend and intercept, this time series found non-stationary. OPEN found stationary time series when tested with trend and intercept. So, the time series cannot be co-integrated due to unidentical conclusions from ADF test with intercept and with trend and intercept both.

Our regression results are based on difference operator and we have used the first-order moving average process. The regression results are reported in Table 3. Results are not very much different from our expectations because we found positive association between fiscal decentralisation and economic growth except the ratio of provincial revenues to central government. Some studies surprisingly found the negative association between fiscal decentralisation and economic growth i.e. Zhang and Zou (1998), Phillips and Woller (1997) and Davoodi and Zou (1998). Our variables other than decentralisation are found significant except GEXP. In case of Government Expenditures, current expenditures comprising of expenditures for defence and debt payments, has a lion's share in total expenditures in Pakistan. So, it has not significant effect on economic growth of the country. INFL is highly significant and has positive impact on economic growth because higher inflation leads people to invest more in physical capital and cut their real balance holdings. GREV has also positive impact on economic growth and it is significant. OPEN has negative impact on economic growth. But our central focus is on fiscal decentralisation variables which are little surprising in their results. Ratio of provincial revenues to central revenues (RPRC) has negative association with economic growth of Pakistan in our sample period but when this ratio is adjusted (Provincial Revenues less Grants from federal government divided by Total Government Revenues), it has positive impact on economic growth and statistically significant. It is strong evidence for fiscal decentralisation on the revenue side. RPEC has also positive impact on economic growth and statistically significant which is also strong evidence for fiscal decentralisation in Pakistan. When we adjust this ratio to reduce the confusion which can occur when defence expenditures and debt payments are taken into account, the result is found statistically insignificant but has positive impact on economic growth just supporting the theory. Insignificant results are not surprising because some previous studies also found insignificant results especially for developing countries. For example, Phillips and Woller (1997) found statistically insignificant results for decentralisation variables, when they regressed these variables especially for developing countries. Our overall model is strongly supporting the evidence that fiscal decentralisation will lead to accelerate economic growth.

Table 3

Regression Results with Gross Domestic Product as Regressand

Variables	Coefficient	Standard Error	t-statistic
Constant	0.1123	0.0589	1.9061
INFL	0.0066	0.0009	6.9543*
Δ LGEXP	0.0886	0.0954	0.9285
LGREV	0.0070	0.0031	2.2899**
OPEN	–0.4167	0.1793	–2.3241**
Δ RPEC	0.5395	0.3746	1.4399
Δ RPECA	0.1333	0.1119	1.1911
Δ RPRC	–0.1747	0.2714	–0.6437
Δ RPRCA	0.6211	0.2690	2.3088**
MA (1)	–0.9895	0.0008	–1246.430
R-squared	0.7448	Mean Dependent var.	0.1459
Adjusted R-squared	0.6449	S. D. dependent var.	0.0562
S. E. of Regression	0.0335	Akaike info. Criterion	–3.7091
Sum Squared resid.	0.0258	Schwarz criterion	–3.2557
Log Likelihood	71.2015	F-statistics	7.4571*
Durbin-Watson stat.	1.8054	Prob. (F-statistics)	0.0000

Source: Authors calculations based on E-views software.

Note: *, **, *** indicates that parameters are significant at 1 percent, 5 percent and 10 percent level respectively.

R^2 and F-statistic values are also reported in Table 3. So, overall impact of fiscal decentralisation variables and our other regressors on economic growth is near about 74 percent which is supporting overall goodness of fit.

VI. CONCLUSIONS

The main focus of this paper was to provide theory and evidence on the relationship between fiscal decentralisation and economic growth for Pakistan. We have found mixed type of results i.e. some variables like RPEC,RPRCA have positive relationship and found significant but we have also found a coefficient (1.191) for variable RPECA which has positive impact on economic growth but statistically insignificant. We have also found a variable (RPRC) which has negative impact on economic growth. Perhaps, it is understandable at the this stage of development in Pakistan, where the central government is constantly constrained by the limited resources for public investment in national priorities such as highways, social services, poverty reduction, telecommunications, energy, defence, debt servicing etc. Such key infrastructure projects may have a far more significant impact on growth. This finding has some implications for Pakistan, pursuing fiscal decentralisation. The merits of fiscal decentralisation have to be measured relative to the existing revenue and expenditure assignments and the stage of economic development. The central government is in a better position to undertake the fiscal responsibilities at the early stage of economic development. However, if the shares of provincial government revenues and expenditures rise continuously then it can slow the pace of economic growth.

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